housed the summer school of a thousand students. In the basement of the latter building is located the power plant for heating, lighting and ventilating the buildings over the entire campus of 50 acres. Two other buildings are in process of erection. One is the Jesup Psychology Laboratory costing $75,000. The other is the Social Religious building, which is designed to play an important part in the life of students, both in a social way and as a preparation for real service in life. This building will be the most commodious on the campus and will probably cost about $300,000.

Mr. Dorr Skeels, of the U. S. Forest Service, has been elected dean of the new school of forestry that has been established at the University of Montana.

Dr. Theodore C. Frye, professor of botany, has been named temporary dean of the college of science by the University of Washington regents to succeed Dr. Henry Landes, acting president of the university.

The following promotions have been made at the University of Colorado: Ralph D. Crawford, Ph.D., to be professor of mineralogy and petrology; Max M. Ellis, Ph.D., to be assistant professor of biology; Frank S. Bauer, B.S., to be assistant professor of mechanical engineering. The following new appointments for the coming year have been made: James L. Merrill, B.S., instructor in engineering drawing; Walter F. Mallory, B.S., instructor in mechanical engineering; Clarence L. Eckel, B.S., instructor in civil engineering; Edward R. Mugrage, M.D., instructor in pathology; Jay W. Woodrow, Oxford University Rhodes Scholar, 1910–12, Ph.D. (Yale, '13), instructor in physics; Esbon Y. Titus, B.A., instructor in chemistry.

DISCUSSION AND CORRESPONDENCE

COMPOSITION AND THOUGHT

To the Editor of Science: In the February issue of *Modern Language Notes* appears from the hand of Professor French a rather unappreciative review of a new type of rhetoric by Steeves and Ristine; the title of the work is "Representative Essays in Modern Thought." The review may go far to discourage the use of the book. And, since I doubt whether many of the readers of Science realize the importance to them of this innovation in rhetorical fields, I beg indulgence to comment upon the method by which the new rhetoric has been used in a western university.

"Representative Essays in Modern Thought" is intended to serve a new purpose in the rhetorical kingdom; students already trained in the essentials of expression are here presented with essays by Mill, Huxley, James, Maine, Clark and other writers famous not only for the clearness of their expression, but also for the solidity and pregnancy of their material. The student, having read any given essay, is asked each week to present his reaction upon that essay. Needing no discussion, surely, are the value of the analysis and outlining of these essays, and the mere advantage of the incidental knowledge gained. But two other points may well be emphasized: the awakening of the promising student to a genuine understanding of the timidity and slovenliness of his habits of thought; and the placing before him in the second semester of his freshman year at college of the sound principles of topics he hears everywhere discussed.

In the second semester of his freshman year, I repeat. That is the point which needs defense against the avowed antagonism of more than one instructor of rhetoric. The students in our modern universities who most need to learn to write are not those who already love to write; rather, they are the students in science, engineering, law and other professional fields. Yet it is perfectly obvious that our crowded curricula seldom, if ever, allow these students to take advanced courses in composition. Nor, be it predicated at once, would I rush the honest journeymen in such courses into the study of Steeves and Ristine. How much could be done for the mediocre student I am rather uncertain; and I refrain from the speculation in futurities in which even my scientific friends are prone to indulge. Here, statements are limited to what can be done for second-semester freshmen who have

finished the routine of the first semester with distinguished grades—at my particular university, grades of $B+$ or above, on a scale of *A, B, C, D, E.*

Such freshmen, then, are segregated in a special section, the purpose of which is carefully explained to them beforehand, and for which, indeed, they have been encouraged to work from the time their ability was discovered; clever, "literary" writers are designedly eliminated, and pressure to enter the section is brought to bear upon students in science, engineering and law. Let me note in passing that few girls elect the course—at least, as yet. The weekly papers that are written are from three to six pages in length; their nature can best be indicated by presenting some of the topics actually written upon. I doubt exceedingly whether either expert or laymen would question the value of the topics; the expert will rightly question, *a priori,* the ability of a mere rhetoric instructor to criticize the themes.

Mill—"On the Liberty of Thought and Discussion."
- Would Mill Accept a Position on the Board of Censors for American Papers?
- Mill and the Suppression of the *Cosmopolitan.*
- Mill and the Study of Sex Hygiene in High School.
- What are Truth and Error?
- Are Christian Missionaries Persecutors of Freedom of Thought?
- Does Mathematical Truth Differ from Ethical?
- Mr. Roosevelt and Some of his Assumptions of Infallibility.

Morley—"On the Possible Utility of Error."
- The Effect on Mankind of Sudden, Supreme, Universal Conviction that There Is No God of any Kind (Use method of classification).
- Should Children Read Fairy-tales?
- Were An Absolute Cure for Vicious Diseases to be Discovered, Should the "Truth" be Spread?
- A Half-truth of Modern Science.

Huxley—"Darwin on the Origin of Species."
- The Evidence of Hybridization—Does it Support Darwin to-day?
- The *Archæopteryx*—its Relation to the *Pterosaur* and the *Compsognothus* as a Proof of Evolution—of Darwinism?
- The Electric Fishes—How have the Neo-Darwinians Met the Problem?
- Is a Darwinian an Atheist?
- Is there a Fallacy in the Syllogism upon which the Discrimination of Species from Varieties Depends?
- Some Theoretical Objections to the Darwinian Explanation of Secondary Sexual Characteristics.

"Ponderous topics for a rhetoric Ph.D. to pass judgment upon?" Yes, my dear scientist or political economist, I echo the satire—the more so because, in my own case, I was reluctantly led to do much graduate work in various remote fields of literature. Still, though rhetoric instructors are poorly prepared to teach sensible courses in composition, the matter is not so bad as it appears on the surface. If the captious critic will examine the topics given, he will note that they fall into two distinct groups: one type of subject may be written upon without research; the other certainly requires special knowledge. Surely, in watching a student detect logical fallacies in Morley or Huxley, the rhetoric instructor is at home; he has long taught argumentation. The research topics the "canny" instructor can easily limit to his own immediate knowledge. *E. g.,* from books and from colleagues one can gather information concerning the archæopteryx, the eohippus or the amphioxus; and no rhetoric instructor need despair of grasping the essentials of the planetesimal hypothesis or the theory of mutations. For distinctly personal reasons, I should not this year allow a student to write upon the effect the discovery of radium had upon any given detail of the atomic theory; next year I may even have apprehended a little on that subject. Moreover, let it be instantly admitted, this course in modern thought is essentially a course in logic and composition; I am interested in using science or political economy only because it affords resistant material to set the freshman's teeth in. What he is to detect is that Darwinism proper is as free from athe-

[3] Particularly Planck's Rectorial address in the current (July) number.

istic implications as the orthogenesists claim to be from neo-vitalistic stigmata; that Socialists of the type of Hillquit are not anarchists and that a very pretty fallacy underlies the assertion that in the Socialistic state all incentive to invention will vanish; that one can scarcely be at the same time a neo-Kantian and a scientific ethicist. What is further aimed at is to teach the scientific or engineering freshman whom nature has endowed with brains the ability to express his inductions or deductions in readable terms—to, well, let me suggest, write upon Mendelism after the *rhetorical method* of Punnett, and not after that of —. The blank is not hard to fill. If scientists are ever to slay the religion which Huxley likened to Bourbonism, they must be capable of approaching the public with other explanations of abstruse matter than such mathematical exposition as even Professor Bateson admits he "could not follow."

And at this point I verge on my final plea for the use by instructors of rhetoric of some such book as Steeves and Ristine. With all humility and yet all firmness, I contend that the proper teacher of such courses is not the ordinary composition instructor, aided by casual, if expert, colleagues from the other schools, nor, above all, the man with training narrowly limited to science, engineering, or law, but the rhetoric instructor who is wise enough to assign only such topics as he himself has taken the trouble to master. Why not the ardent young scientist? Because the very reason for rhetoricians adopting the new text is that they may train the scientists of the next generation to learn to use the language that seemed adequate to Darwin and Huxley, Smith and Galton, Tyndall and Faraday. I rather suspect that a certain professor of physics was not entirely alone when he so surprisingly confessed in the preface to his well-known book that "he trusted he had made no more errors than he had hoped for." There is, however, a further reason for the objection to turning such courses over to scientists. Scientists love theories and even hypotheses: witness the pleasing manner in which Eimer flayed Nägeli for approximating neo-vitalism—and then note how charmingly mystical is Eimer's own analysis of orthogenetic forces. The basic thing in these thought courses is that there be no adherent to this school or that supervising the course. For, whenever the mere imparting of information or speculation is allowed to take the place of the study of coherent arrangement of material and sharp criticism of independent thought, then the chief value of such courses is thoroughly vitiated. And yet, if rhetoric instructors do not awake, some time or other scientists, engineers and lawyers will somehow face the problem of themselves instilling the principles of unity and coherence into their promising students.

Middle West

SCIENTIFIC BOOKS

Problems of Science. By Federico Enriques. Authorized translation by Katharine Royce, with an introductory note by Josiah Royce, Professor of History of Philosophy at Harvard University. Chicago, The Open Court Publishing Company. 1914. Pp. xvi + 392.

Among mathematicians Enriques, who is professor of projective and descriptive geometry in the Unversity of Bologna, has long been favorably known for his contributions to geometry, especially for his admirable treatise on "Projective Geometry" and for his penetrating essays on "The Foundations of Geometry." In the work before us the distinguished geometrician addresses a far wider circle of students and thinkers: not only mathematicians, but psychologists, logicians, philosophers, astronomers, mechanicians, physicists, chemists, biologists and others. For the discussion, which is as wide-ranging as the philosophic writings of Henri Poincaré or as that of John Theodore Merz in the first two volumes of his "History of European Thought in the Nineteenth Century," deals with fundamental questions drawn from every large department of modern science.

The original text, "Problemi della Scienza," was published in 1906 and has since appeared in German and French translations. Many a